In the claims:

1. (Canceled)

2. (currently amended) An implantable medical device (IMD) for implantation in a patient to detect symptomatic and asymptomatic myocardial ischemia, comprising:

pacing circuitry configured to selectively produce pacing pulses at a programmable pacing rate for delivery to muscle tissue of a heart of the patient,

wherein the pacing circuitry ~~IMD~~ is configurable to subject the patient to a variety of stress tests, and wherein ~~during~~ the variety of stress tests further comprise:

(i) a first stress test protocol wherein the programmable pacing rate is slowly increased at from between about five paces per minute (ppm) to about ten ppm from a start rate to a stop rate, wherein the stop rate is greater than the start rate, and ~~(ii)~~ the patient's response to the first stress test protocol ~~stress test data~~ is acquired and stored in a memory structure as a part of a stress test data set; ~~within the IMD, wherein~~

(ii) a second stress test protocol wherein the IMD is configurable to store timing information specifying a time the IMD is to subject the patient to the first stress test protocol, and to subject the patient to the first stress test protocol at the ~~time~~ time, day and/or date specified by the timing information, and the patient's response to the second stress test protocol is acquired and stored in the memory structure as a part of the stress test data set; and

(iii) a third stress test protocol wherein the protocol comprises recreating the physiologic conditions of a previously stored episode of paced or intrinsic symptomatic myocardial ischemia that were stored in the memory structure after the patient triggers an episode storage event, and the patient's response to the third stress test protocol is acquired and stored in the memory structure as a part of the stress test data set.

3. (original) The implantable medical device (IMD) as recited in claim 2, wherein the timing information specifies a frequency and a time of day the IMD is to subject the patient to the stress test.

4. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the IMD is adapted to receive a signal, and configurable to subject the patient to at least one of the first, second and third stress test protocol in response to the signal.

5. (original) The implantable medical device (IMD) as recited in claim 4, wherein the signal is a radio frequency signal.

6. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the IMD is configurable to detect at least one sign of myocardial ischemia within the patient during the first, second and third stress test protocols, and wherein the IMD is configurable to abort each the stress test protocols when the at least one sign of myocardial ischemia is detected within the patient.

7. (original) The implantable medical device (IMD) as recited in claim 6, wherein the at least one sign of myocardial ischemia comprises deviation of an ST segment of an electrogram (EGM) waveform from an isoelectric baseline of the electrogram (EGM) waveform.

8. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the IMD is adapted to receive a signal, and configurable to abort at least one of the first, second and third stress test protocols in progress at a time the signal is received.

9. (original) The implantable medical device (IMD) as recited in claim 8, wherein the signal is a radio frequency signal.

10. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein during at least the first stress test protocol, the pacing rate is monotonically increased from the start rate to the stop rate.

11. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein during at least the first stress test protocol, the pacing rate is increased from the start rate to the stop rate by: (i) programming the pacing rate to be the start rate, and (ii) at pre-selected time intervals, reprogramming the pacing rate to be a sum of a current value of the pacing rate and a pre-selected rate-of-change value.

12. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the stress test data set comprises electrogram (EGM) waveform data produced within the IMD.

13. (original) The implantable medical device (IMD) as recited in claim 12, wherein the IMD is coupled to receive a signal from at least one intrathoracic electrode, and wherein the electrogram (EGM) waveform is an intrathoracic electrogram (EGM) waveform.

14. (original) The implantable medical device (IMD) as recited in claim 12, wherein the IMD is coupled to receive a signal generated within the heart, and wherein the electrogram (EGM) waveform is an intracardiac electrogram (EGM) waveform.

15. (original) The implantable medical device (IMD) as recited in claim 12, wherein the electrogram (EGM) waveform comprises an ST segment and an isoelectric baseline, and wherein the EGM data comprises a measurement of deviation of the ST segment from the isoelectric baseline.

16. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the IMD is coupled to receive sensor data, and wherein the stress test data set comprises the sensor data.

17. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the stress test data set comprises pacing threshold data produced within the IMD and indicative of an amount of energy dissipated by the pacing circuitry while producing the pacing pulses.

18. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein the stress test data set comprises arrhythmia data produced within the IMD and indicative of detected arrhythmias of the heart of the patient.

19. (previously presented) The implantable medical device (IMD) as recited in claim 2, wherein the IMD is coupled to receive a first intrinsic depolarization signal and a second intrinsic depolarization signal from the heart of the patient, and wherein the IMD is configurable to operate in a demand mode, and wherein in the demand mode, if the second intrinsic depolarization signal is not received within a predetermined time period, determined by the pacing rate, after the first intrinsic depolarization signal is received, the pacing circuitry is signaled to produce one of the pacing pulses.

20. (currently amended) The implantable medical device (IMD) as recited in claim 2, wherein during an initial portion of one of the first stress test protocol and the second stress test protocol: (i) the programmed pacing rate is programmed such that the pacing rate is increased from a start rate to a stop rate, and (ii) stress test data set is acquired and stored within the IMD, and wherein during a final portion of one of the first stress test protocol and the second stress test protocol: ~~(iii)~~ the pacing rate is programmed such that the programmed pacing rate is decreased from the stop rate to the start rate, and ~~(iv)~~ the IMD provides the stress test data stored within the IMD.

21. (previously presented) The implantable medical device (IMD) as recited in claim 2, wherein the IMD is a pacemaker.

22. (previously presented) The implantable medical device (IMD) as recited in claim 2, wherein pacing pulses received by the muscle tissue of the heart cause the muscle tissue to depolarize.

23. (Canceled)

24. (currently amended) An implantable medical device for implantation in a patient, comprising:

pacing circuitry configured to selectively produce pacing pulses at a programmable pacing rate for delivery to muscle tissue of a heart of the patient;

a memory for storing data, including a stress test data set; and

a control unit coupled to the pacing circuitry and the memory, wherein the control unit is configurable to subject the patient to a variety of stress test protocols, and wherein:

during a first ~~the~~ stress test protocol the control unit: ~~(i)~~ programs the pacing rate such that the pacing rate is increased incrementally at about between five paces per minute and ten ppm from a start rate to a stop rate, wherein the stop rate is greater than the start rate while acquiring and storing, ~~and (ii) acquires and stores~~ the stress test data set in the memory; and

during a second stress test protocol the control unit recreates the physiologic conditions of a previously stored episode of paced or intrinsic symptomatic myocardial ischemia that were stored in the memory after the patient triggers an episode storage event, and the patient's response to the third stress test protocol is acquired and stored in the memory as a part of the stress test data set, wherein the device further comprises:

a ~~real-time~~ clock circuit coupled to the control unit and configured to

keep track of time; and

a telemetry unit coupled to the control unit and configured to send and receive signals and data; and

wherein the control unit is configurable to~~: (i)~~ receive timing data or a trigger signal via the telemetry unit, wherein the timing data specifies a time the IMD is to subject the patient to the stress test so that~~, and (ii) use~~ the ~~real-time~~ clock circuit or the trigger signal to subject the patient to one of the first stress test protocol and the second stress test protocol at the time specified by the timing data or upon receipt of the trigger signal, respectively.

25. (original) The implantable medical device (IMD) as recited in claim 24, wherein the timing data specifies a frequency and a time of day the IMD is to subject the patient to the stress test.

26. (currently amended) The implantable medical device (IMD) as recited in claim 24, further comprising a telemetry unit coupled to the control unit and configured to send and receive signals and data, wherein the control unit is configurable to subject the patient to one of the variety of stress test protocols in response to a signal received via the telemetry unit.

27. (original) The implantable medical device (IMD) as recited in claim 26, wherein the signal is a radio frequency signal.

28. (currently amended) The implantable medical device (IMD) as recited in claim 24, wherein the control unit is configurable to detect at least one sign of myocardial ischemia within the patient during one of the variety of stress test protocols, and wherein the control unit is configurable to abort ~~the~~ and applied one of the variety of stress test protocols when the at least one sign of myocardial ischemia is detected within the patient.

29. (original) The implantable medical device (IMD) as recited in claim 28, wherein the at least one sign of myocardial ischemia comprises deviation of an ST segment of an electrogram (EGM) waveform from an isoelectric baseline of the electrogram (EGM) waveform.

30. (previously presented) The implantable medical device (IMD) as recited in claim 24, further comprising a telemetry unit coupled to the control unit and configured to send and receive signals and data, wherein the control unit is configurable to abort a stress test in progress at a time a signal is received via the telemetry unit.

31. (original) The implantable medical device (IMD) as recited in claim 30, wherein the signal is a radio frequency signal.

32. (previously presented) The implantable medical device (IMD) as recited in claim 24, wherein during the stress test, the control unit programs the pacing rate such that the pacing rate is monotonically increased from the start rate to the stop rate.

33. (previously presented) The implantable medical device (IMD) as recited in claim 24, wherein during the stress test, the control unit: (i) programs the pacing rate to be the start rate, and (ii) at pre-selected time intervals, reprograms the pacing rate to be a sum of a current value of the pacing rate and a pre-selected rate-of-change value.

34. (currently amended) The implantable medical device (IMD) as recited in claim 24, further comprising electrode sensing circuitry coupled to receive electrode signals and configured to produce electrogram (EGM) waveform data derived from an electrogram (EGM) waveform, wherein the stress test data set comprises the electrogram (EGM) waveform data.

35. (currently amended) The implantable medical device (IMD) as recited in claim 34, wherein the electrode sensing circuitry is coupled to receive electrode signals from at least one intrathoracic electrode and configured to produce intrathoracic electrogram (EGM) waveform data, and wherein the stress test data set comprises the intrathoracic electrogram (EGM) waveform data.

36. (currently amended) The implantable medical device (IMD) as recited in claim 34, wherein the electrode sensing circuitry is coupled to receive electrode signals from at least one intracardiac electrode and configured to produce intracardiac electrogram (EGM) waveform data, and wherein the stress test data set comprises the intracardiac electrogram (EGM) waveform data.

37. (original) The implantable medical device (IMD) as recited in claim 34, wherein the electrogram (EGM) waveform comprises an ST segment and an isoelectric baseline, and wherein the electrogram (EGM) waveform data comprises data indicative of a deviation of the ST segment from the isoelectric baseline.

38. (currently amended) The implantable medical device (IMD) as recited in claim 24, wherein the control unit is coupled to receive sensor data, and wherein the stress test data set comprises the sensor data.

39. (currently amended) The implantable medical device (IMD) as recited in claim 24, wherein the control unit is coupled to receive pacing threshold data produced within the IMD and indicative of an amount of energy dissipated by the pacing circuitry while producing the pacing pulses, and wherein the stress test data set comprises the pacing threshold data.

40. (currently amended) The implantable medical device (IMD) as recited in claim 24, wherein the control unit is coupled to receive arrhythmia data produced

within the IMD and indicative of detected arrhythmias of the heart of the patient, and wherein the stress test data set comprises the arrhythmia data.

41. (previously presented) The implantable medical device (IMD) as recited in claim 24, further comprising timing/pacing control circuitry coupled to receive a first intrinsic depolarization signal and a second intrinsic depolarization signal from the heart of the patient, wherein the IMD is programmable to operate in a demand mode, and wherein in the demand mode, if the timing/pacing control circuitry does not receive the second intrinsic depolarization signal within a predetermined time period, determined by the pacing rate, after the timing/pacing control circuitry receives the first intrinsic depolarization signal, the timing/pacing control circuitry is configured to signal the pacing circuitry to produce one of the pacing pulses.

42. (currently amended) The implantable medical device (IMD) as recited in claim 24, further comprising a telemetry unit coupled to the control unit and configured to send and receive signals and data, wherein during an initial portion of the first stress test protocol, the control unit: (i) programs the pacing rate such that the pacing rate is increased from the start rate to the stop rate, and (ii) acquires and stores the stress test data in the memory, and wherein during a final portion of the first stress test protocol, the control unit: (iii) programs the pacing rate such that the pacing rate is decreased from the stop rate to the start rate, and (iv) provides the stress test data set stored in the memory via the telemetry unit.

43.-78. (canceled)

79. (new) A medium for producing control signals for executing an instruction set in an implantable medical device (IMD) to perform a method of detecting a symptomatic or asymptomatic episode of myocardial ischemia, said medium comprising:

(i) instructions for performing a first stress test protocol wherein a programmable pacing rate is slowly increased at from between about five paces per minute (ppm) to about ten ppm from a start rate to a stop rate, wherein the stop rate is greater than the start rate, and including instructions for acquiring and storing a patient's response to the first stress test protocol in a memory structure as a part of a stress test data set;

(ii) instructions for performing a second stress test protocol according to stored timing information specifying a time the IMD is to subject the patient to the first stress test protocol, and including instructions to subject the patient to the first stress test protocol at the time, day and/or date specified by the timing information, and including instructions for acquiring and storing the patient's response to the second stress test protocol in the memory structure as a part of the stress test data set; and

(iii) instructions for performing a third stress test protocol wherein the protocol comprises recreating the physiologic conditions of a previously stored episode of paced or intrinsic symptomatic myocardial ischemia that were stored in the memory structure after the patient triggers an episode storage event, and including acquiring and storing the patient's response to the third stress test protocol in the memory structure as a part of the stress test data set.